



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,888	01/07/2002	Bill M. Culbertson	22727/04083	8873

24024 7590 04/11/2006

CALFEE HALTER & GRISWOLD, LLP  
800 SUPERIOR AVENUE  
SUITE 1400  
CLEVELAND, OH 44114

EXAMINER

YOON, TAE H

ART UNIT	PAPER NUMBER
----------	--------------

1714

DATE MAILED: 04/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/040,888	Applicant(s) CULBERTSON ET AL	
	Examiner Tae H. Yoon	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.  
 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 37 and 39-55 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 37 and 39-55 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1714

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 37, 40 and 41 are rejected 35 U.S.C. 102(b) as anticipated by Denzinger et al (US 5,175,361).

Applicant recites vinyl monomers excluding acrylamide example 24 of Denzinger et al. However, Denzinger et al teach starting monomer c) at col. 2, lines 33-41 wherein 13 species are recited including methacrylamide. Thus, the use of said methacrylamide in example 24 of Denzinger et al would be anticipation since choice is very limited. See *In re Arkley*, 455 f2d 586, 172 USPQ 524 (CCPA 1972); *In re Petering*, 301 F2d 676, 133 USPQ 275 (CCPA 1962).

Thus, the instant invention lacks novelty.

Claims 37, 39-41, 43 and 48-54 are rejected under 35 U.S.C. 103(a) as obvious over Xie et al (J.M.S.-Pure. Appl. Chem., A35 (4), pp 547-561 (1998) or Culbertson et al (ACS Symposium Series, 755, 2000, pp. 222-232) in view of Culbertson et al (US 5,369,142).

Rejection is maintained for reason of record with following response.

Xie et al and Culbertson et al (ACS Symposium) teach a polymer from acrylic acid, itaconic acid and N-vinyl-2-pyrrolidone and glass-ionomer dental restorative compositions thereof as discussed in previous office action.

Xie et al and Culbertson et al (ACS Symposium) do not the use of maleic acid as pointed out by the examiner and now stated by applicant. However, the use of said maleic acid in terpolymers for dental composition is well known practice as taught by Culbertson et al (col. 4, line 25) wherein said maleic acid and itaconic acid are equated and preferred monomers.

Thus, the use of maleic acid of Culbertson et al (US'142) in Xie et al and Culbertson et al (ACS Symposium) in lieu of itaconic acid is a *prima facie* obviousness since both acid are difunctional monomers and used in terpolymers for dental composition.

Claims 37 and 39-55 are rejected under 35 U.S.C. 103(a) as obvious over Xie et al (J.M.S.-Pure. Appl. Chem., A35 (10), pp 1631-1650 (1998) in view of Culbertson et al (US 5,369,142).

Rejection is maintained for reason of record with following response.

Xie et al teach a polymer from acrylic acid, itaconic acid and N-vinyl-2-pyrrolidone and light curable glass-ionomer dental restorative compositions.

Xie et al do not the use of maleic acid as pointed out by the examiner and now stated by applicant. However, the use of said maleic acid in terpolymers for dental

composition is well known practice as taught by Culbertson et al (col. 4, line 25) wherein said maleic acid and itaconic acid are equated and preferred monomers.

Thus, the use of maleic acid of Culbertson et al (US'142) in Xie et al and Culbertson et al (ACS Symposium) in lieu of itaconic acid is a *prima facie* obviousness since both acid are difunctional monomers and used in terpolymers for dental composition.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Thu.

Art Unit: 1714

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Tae H Yoon  
Primary Examiner  
Art Unit 1714

THY/April 10, 2006